

21. (original) The carboxylation system of claim 1 in which said supply of stabilizing materials is connected to said third mixer.

### REMARKS/ARGUMENTS

5 The use of the term "stage" has been questioned. The term "stage" refers to the apparatus. The error in the last line of claim 1 has been corrected.

10 The use of the reaction time to define the size of the reaction chamber has been questioned. In *Chemical Separation Technology, Inc. et al v. United States*, 63 U.S.P.Q.2d 1114 (United States Court of Claims, 2002), the question of whether using reaction time to define an element in an apparatus rendered the claim indefinite was raised. The Court found that one skilled in the art would understand the invention, and the claims were definite, stating "The test for definiteness is whether one skilled in the art would understand the bounds of the claim when read in light of the specification. If the claims read in light of the specification reasonably apprise those skilled in the art of the scope of the invention, § 112 demands no more." *Miles Labs, Inc. v. Shandon Inc.*, 997 F.2d 870, 875 (Fed. Cir. 1993), *cert denied*, 510 U.S. 1100 (1994).

15 The present specification and claims tells one skilled in the art what the reaction is. One skilled in the art will know the flow rate through the reactor and, consequently, the size of the reactor. Page 28 of the specification relates reactor size to reaction time. This is not a process limitation, it is a size or structure limitation. The limitations of claims 1 and 3-6 are not disclosed in the references of record.

20 The claims have been rejected under 35 U.S.C. 102(b) as being anticipated by Tsai. Tsai does not disclose a carboxylation apparatus. Tsai discloses apparatus for performing a chlorine-ozone-extraction-chlorine bleach sequence. There are two mixers in the apparatus: one for adding the ozone and one for adding the extraction caustic. It is the Examiner's position that the washer 36 of Tsai is a mixer because water is added at the washer. Tsai says only that the pulp is washed at washer 36. It should be noted that Tsai differentiates between mixers 26 and 32 and washers 24 and 36. A washer of the type shown in Tsai is not mixing chemicals; it is displacing one liquid with another. The American Heritage College Dictionary (Third edition) defines a mixer as "a device that blends or mixes substances or ingredients, esp. by mechanical agitation". The washer of Tsai is not a mixer as a mixer is normally defined.

Claim 13 has been rejected over Tsai because Tsai discloses a pH meter after the reactor as disclosed in lines 10-20 of column 5. In claim 13 the pH meter is after the reaction chamber. In lines 10-20 of column 5, no pH meter is mentioned. What is disclosed is adding sodium hydroxide to maintain optimum final pH after the last chlorination stage. In the rejection the extraction tower 34 has been equated with the claimed reactor. The cited section of column 5 does not describe a pH meter after the extraction tower 34.

Claim 13 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai in view of Shakford. In the rejection it was noted that the pump 20 of Shakford was a mixer. The pump 20 of Shakford is not a mixer. The pump 20 of Shakford is a thick stock pump which moves the material from washer 10 to the mixer 30 where the ozone is added. The pump 20 of Shakford is used in conjunction with a mixer 30 in each of the Figures. The ozone is added at mixer 30, not at pump 20. There would be no reason to substitute the pump 20 of Shakford for the mixer 26 of Tsai. If the disclosure of Shakford were used then the pump 20 would be placed in front of the mixer 26 of Tsai and would be used as a pump, not a mixer.


**BEST AVAILABLE COPY****CONCLUSION**

In view of the above amendments and foregoing remarks, applicants believe that claims 1 and 3-21 are in condition for allowance. Reconsideration and allowance are respectfully requested.

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Respectfully submitted,  
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